collector <u>region</u> [zone (112) –] where an interposed buffer layer [(114)] can be deposited [-], an insulation layer [(117)] is deposited over the cap layer [(116)], the insulation layer [(117)] is opened in the area of the effective emitter zone, a poly-Si or an α-Si layer is deposited and structured over the opened insulation layer [(117)] and is then used as an emitter-doping agent source and as a contact layer, <u>wherein,</u> [characterized in that –] before the diffusion from the emitter-doping agent source, [-] a doping profile is introduced into the cap layer [(116)], and the profile is low-doped on the base side and highly doped on the emitter side.

2. (amended) <u>The</u> [A] procedure according to claim 1, <u>wherein</u> [characterized in that] the base-side lower doping concentration of the cap layer [(116)] does not exceed values of 5×10^{16} cm^{-3}.

3. (amended) <u>The</u> [A] procedure <u>of claim 1, wherein</u> [according to claims 1 or 2, characterized in that] the cap layer [(116)] is of a thickness between 20 nm and 70 nm.

4. (amended) <u>The</u> [A] procedure <u>of claim 1, wherein</u> [according to one or several of the preceding claims, characterized in that] the emitter-side high doping concentration of the cap layer [(116)] does not exceed values of 5×10^{18} cm^{-3} <u>when</u> [if] the doping agent is of the same conductivity type as the base layer [(115)].

5. (amended) <u>The</u> [A] procedure <u>of claim 1, wherein</u> [according to one or several of the preceding claims, characterized in that] the cap doping profile is introduced by implantation.

6. (amended) <u>The</u> [A] procedure <u>of claim 1, wherein</u> [according to one or several of the preceding claims, characterized in that] the cap doping profile is introduced in situ during the epitaxy process.

7. (amended) <u>The</u> [A] procedure <u>of claim 1, wherein</u> [according to one or several of the preceding claims, characterized in that] the cap doping profile is introduced by diffusion from the insulation layer [(117)] <u>after highly enriching the insulation layer</u> [that had been highly enriched] with the doping agent.

8. (amended) A bi-polar transistor, in which structured regions consisting of a collector region [(112)] and an insulation region that [(113) - which] surrounds the collector region [(112) -] are produced on a monocrystal substrate layer [(111)], a base layer [(115)] and , [–] where a buffer layer [(114)] can be interposed [-], by means of epitaxy, a cap layer [(116)] are produced over the collector zone [(112)], an insulation layer [(117)] is deposited over the cap layer [(116)], the insulation layer [(117)] is opened in the area of the effective emitter zone, a poly-Si or an α-Si layer is deposited and structured over the opened insulation layer [(117)] and is then used as an emitter-doping agent source and as a contact layer, wherein [characterized in that], in an [the] overlapping region [(17) – the region] between an [the] edge of the emitter window and the outer delimitation of the structured poly-silicon or α-silicon layer [(15) –] the cap layer [(13/116)] contains a doping profile, and the profile is low-doped on the base side and highly doped on the emitter side.

9. (amended) The [A] bi-polar transistor according to claim 8, wherein [characterized in that] the base-side lower doping concentration of the cap layer [(13/116)] does not exceed values of 5×10^{16} cm^{-3}.

10. (amended) The [A] bi-polar transistor of Claim 8, wherein [according to one or several of claims 8 to 9, characterized in that] the cap layer [(13/116)] is of a thickness between 20 nm and 70 nm.

11. (amended) The [A] bi-polar transistor of Claim 8, wherein [according to one or several of claims 8 to 10, characterized in that] the emitter-side high doping concentration of the cap layer [(13/116)] does not exceed values of 5×10^{18} cm^{-3} when [if] the doping agent is of the same conductivity type as the base layer [(12,115)].

12. (new) A procedure for manufacturing a bi-polar transistor, comprising the steps of:

producing, on a monocrystal substrate layer, structured regions consisting of a collector region and an insulation region, the insulation region surrounding the collector region,

producing a base layer and a cap layer over the collector region, the cap layer produced by epitaxy;

depositing an insulation layer over the cap layer, the insulation layer opened in an area of an effective emitter zone; and

depositing and structuring a poly-Si or an α-Si layer over the opened insulation layer, and using this layer as a source of emitter-doping agent and as a contact layer;

wherein, before diffusing from the emitting-doping agent source, a doping profile is introduced into the cap layer, the profile being low doped on a base side thereof and high doped on an emitter side thereof.

13. (new) The procedure of claim 12, further comprising the step of depositing a buffer layer between the collector region and the base layer.

14. (new) A bi-polar transistor, comprising:

a monocrystal substrate layer;

structured regions comprising a collector region and an insulation region surrounding the collector region atop the monocrystal substrate layer;

a base layer and, by means of epitaxy, a cap layer produced over the collector region when a buffer layer can be interposed;

an insulation layer deposited over the cap layer, the insulation layer being opened in an area of an effective emitter zone; and

a poly-Si or an α-Si layer deposited and structured over the opened insulation layer, this layer then used as an emitter-doping agent source and as a contact layer,

wherein, in an overlapping region between an edge of the emitter zone and an outer delimitation of the structured poly-silicon or α-silicon layer, the cap layer contains a doping profile, and the profile is low-doped on a base side thereof and highly doped on an emitter side thereof.